

Chapter 9: UMRA and Other Economic Analyses

INTRODUCTION

This chapter addresses the requirements of the Unfunded Mandates Reform Act (UMRA) and the related requirements of Executive Order 13132 on “Federalism” and the Paperwork Reduction Act (PRA). To demonstrate compliance with these mandates, EPA analyzed the costs and impacts of the proposed rule for government and private sector entities, including the administrative costs imposed by the regulation.

Section 9.1 of this chapter presents an analysis which supports EPA’s compliance with the requirements of UMRA. Section 9.2 presents the total social costs of the proposed rule. Section 9.3 addresses Executive Order 13132 and the Paperwork Reduction Act.

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9.1 THE UNFUNDED MANDATES REFORM ACT (UMRA) OF 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) requires that Federal agencies assess the effects of their regulatory actions on state, local, and tribal governments and the private sector. Agencies must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with “Federal mandates” that may result in expenditures by state, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year (Section 202 of UMRA).¹

Before promulgating a rule for which a written statement is needed, agencies must identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule (Section 205). The provisions of Section 205 do not apply when they are inconsistent with applicable law. Agencies may adopt an

alternative other than the least costly, most cost-effective, or least burdensome alternative if they publish with the final rule an explanation why that alternative was not adopted (Section 205). Before establishing any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, agencies must develop a small government agency plan (Section 203). The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

UMRA specifies that a written statement is needed if either (1) the cost of a regulation to *state, local, and tribal governments* exceeds \$100 million in any one year, or (2) the cost of a regulation to the *private sector* exceeds \$100 million in any one year.² The following two subsections, 9.1.1 and 9.1.2, present the costs of the proposed §316(b) New Facility Rule to the government and the private sector,

¹ Federal mandates include Federal regulations that impose enforceable duties on state, local, and tribal governments, or on the private sector, excluding those related to conditions of Federal assistance and participation in voluntary Federal programs.

² The \$100 million test is applied separately to governments and the private sector. The term “in any one year” refers to the maximum cost in a single year, not the annualized cost over the analysis period.

respectively. Subsection 9.1.3 presents a summary of the results of the UMRA analysis.

9.1.1 Compliance Costs for Governments

Governments may incur two types of costs as a result of the proposed rule: (1) costs to comply with the rule for in scope facilities owned by government entities; and (2) costs to implement the rule, borne by the responsible regulatory authorities. Both types of costs are discussed below.

a. Compliance Costs for Government-Owned Entities

Of the 98 new in scope facilities subject to the proposed rule, only three are expected to be owned by a government entity. All three are electric generators projected to be owned by a state government or municipality.³

Compliance costs for individual facilities were presented in *Chapter 6: Facility Compliance Costs*. The maximum aggregate costs for the three government-owned facilities in any one year is estimated to be \$189,000.⁴

b. Implementation Costs for Regulatory Authorities

The requirements of §316(b) are implemented through the NPDES permit program. Forty-four states and territories currently have NPDES permitting authority under Section 402(b) of the Clean Water Act (CWA). EPA estimates that states and territories will incur four types of costs associated with implementing the requirements of the proposed §316(b) New Facility Rule: (1) start-up activities; (2) issuing an initial NPDES permit for each new facility; (3) reviewing and reissuing a permit for each new facility every five years; and (4) annual activities.

Each state's actual burden associated with the administrative functions required by the proposed §316(b) New Facility Rule will depend on the number of new in scope facilities that will be built in the state during the ten year analysis period. The incremental burden will also depend on the extent of each state's current practices for regulating CWISs.⁵

³ Based on EPA's research of the NEWGen database, one new in scope facility, GenG, is owned by a state government. EPA extrapolated information from the NEWGen database to account for the 20-year forecasting period of this analysis. Based on this extrapolation, EPA estimated that an additional two government-owned facilities, GenI and CC6, would be subject to this proposed regulation. (See *Chapter 5: Baseline Projections of New Facilities* and *Chapter 7: Economic Impact Analysis* for more information on how EPA estimated the number and the type and characteristics of facilities subject to this rule.)

⁴ Annualized at seven percent, this cost is estimated to be \$186,000.

⁵ States that currently require relatively modest analysis, monitoring, and reporting of impacts from CWISs in NPDES permits may require more permitting resources to implement the proposed rule than are required under their current programs. For states that are actively implementing §316(b) requirements now, the proposed rule may actually reduce the burden on permit writers, by clarifying key concepts in the rule and by providing easily-applied criteria for some regulatory determinations. The available information on current implementation of the §316(b) requirements by different regulatory authorities is insufficient to allow EPA to estimate the costs of the proposed rule to the regulatory authorities with precision. EPA therefore made the conservative assumption that permitting authorities currently do not incur administrative costs of implementing §316(b) requirements and that all costs for new facilities under the proposed §316(b) New Facility Rule are incremental costs.

❖ *Start-up activities*

All 44 states and territories with NPDES permitting authority are expected to undergo start-up activities to prepare for administering the provisions of the proposed §316(b) New Facility Rule. Start-up activities include reading and understanding the rule, mobilization and planning of the resources required to address the rule's requirements, and training technical staff on how to review

materials submitted by facilities and make determinations on the §316(b) requirements for each facility's NPDES permit. In addition, permitting authorities are expected to incur other direct costs, e.g., for copying and the purchase of supplies. Table 9-1 shows that total start-up costs of \$3,054 are expected to be incurred by each of the 44 states and territories with NPDES permitting authority.

Table 9-1: Government Costs of Start-Up Activities (per Regulatory Authority)	
Activity	Costs
Read and Understand Rule	\$758
Mobilization/Planning	\$1,326
Training	\$919
Other Direct Costs	\$50
Total[†]	\$3,054

[†] Individual numbers may not add up to total due to independent rounding.

Source: U.S. EPA, *Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule*, July 2000.

❖ *Issue initial NPDES permit*

The permitting authorities will have to include the requirements of the proposed §316(b) New Facility Rule in the initial NPDES permit issued to each new in scope facility. The activities required to make determinations of §316(b) requirements include reviewing submitted documents and supporting materials, verifying data sources, consulting with facilities and the interested public, determining specific permit requirements, and writing the actual permit.

Table 9-2 below shows the activities that EPA anticipates will be necessary for initial permit issuance and the estimated cost of each activity. Permits that require all of the components listed in Table 9-2 are expected to impose a cost of \$3,482 per permit.

Table 9-2: Government Costs of Initial NPDES Permit Issuance (per Permit)	
Activity	Costs
Review Source Water Baseline Characterization Study	\$443
Review Littoral Zone and CWIS Location Data	\$443
Review CWIS Design Data	\$443
Review Additional Technology Implementation Plan	\$222
Determine Compliance with CWIS Standards	\$665
Determine Monitoring Frequency	\$222
Determine Record Keeping and Reporting Frequency	\$222
Consider Public Comments	\$222
Issue Permit	\$201
Keep Permit Record	\$100
Other Direct Costs	\$300
Total^{††}	\$3,482

[†] Actual per permit costs may be lower than the total cost because some facilities will not have to submit information on all compliance requirements.

^{††} Individual numbers may not add up to total due to independent rounding.

Source: U.S. EPA, *Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule*, July 2000.

❖ **Review and reissue permit every five years**

NPDES permits are issued for five years. The permitting authority therefore has to reissue the permits for the new in scope facilities every five years following issuance of the initial permit. Before reissuing a facility's permit, the regulatory authority must determine if there have been any changes in the facility's operations or in the physical or biological attributes of the source water body. Any changes should be evaluated to determine the need for additional, or more stringent, conditions in the permit.

The proposed §316(b) New Facility Rule requires facilities to submit the same type of information for their permit renewal application as was required for the initial permit. The permitting authorities will therefore have to carry out

the same type of administrative activities as during the initial permitting process. The burden of these activities is expected to be smaller for permit reissuance, however, because the permitting authority is already familiar with the facility's case and the type of information the facility will provide. The reduction in costs is expected to vary by the specific repermitting activities.

Table 9-3 shows the activities that EPA anticipates will be necessary for permit reissuance and the estimated cost of each activity. Permits that require all of the components listed in Table 9-3 are expected to impose a cost of \$2,861 per permit.

Table 9-3: Government Costs of Repermitting (per Permit)	
Activity	Costs
Review Source Water Baseline Characterization Study	\$443
Review Littoral Zone and CWIS Location Data	\$133
Review CWIS Design Data	\$133
Review Additional Technology Implementation Plan	\$222
Determine Compliance with CWIS Standards	\$665
Determine Monitoring Frequency	\$222
Determine Record Keeping and Reporting Frequency	\$222
Consider Public Comments	\$222
Issue Permit	\$201
Keep Permit Record	\$100
Other Direct Costs	\$300
Total	\$2,861

† Actual per permit costs may be lower than the total cost because some facilities will not have to submit information on all compliance requirements.

†† Individual numbers may not add up to total due to independent rounding.

Source: U.S. EPA, *Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule*, July 2000.

❖ Annual activities

In addition to the start-up and permitting activities discussed above, permitting authorities will have to carry out certain annual activities to ensure the continued implementation of the requirements of the proposed §316(b) New Facility Rule. These annual activities include reviewing yearly status reports, tracking compliance, determining monitoring scope reduction, and record keeping.

Table 9-4 below shows the annual activities that will be necessary for each permit following the year of initial permitting and the estimated cost of each activity. A total cost of \$1,469 is estimated for each permit per year.

Table 9-4: Government Costs for Annual Activities (per Permit)	
Activity	Costs
Review of Yearly Report	\$522
Track Compliance	\$443
Determine Monitoring Scope Reduction	\$348
Keep Records	\$106
Other Direct Costs	\$50
Total[†]	\$1,469

^{††} Individual numbers may not add up to total due to independent rounding.

Source: *Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule, July 2000.*

EPA calculated total government costs for implementing the proposed §316(b) New Facility Rule by aggregating the unit costs presented in Tables 9-1 to 9-4 based on the specific permitting requirements for each of the 98 new in scope facilities. Table 9-5 presents the rule's estimated government implementation costs for 2001 to 2030. The table shows that the highest one-year implementation costs, \$159,319, will be incurred in 2001, the first year of the final §316(b) New Facility Rule. This cost is mainly the result of

start-up activities for the 44 states and territories with NPDES permitting authority. The total net present value of government implementation costs is estimated to be \$953,700 or \$76,860 per year when annualized over 30 years at a seven percent rate.⁶

⁶ Calculation of the present value assumes that costs are incurred at the end of the year.

Table 9-5: Total Government Implementation Costs by Year and Activity

Year	Start-Up Activities	Initial Permitting	Repermitting	Annual Activities	Total Costs
2001	\$134,376	\$24,943	\$0	\$0	\$159,319
2002	\$0	\$18,832	\$0	\$7,344	\$26,175
2003	\$0	\$12,977	\$0	\$17,624	\$30,601
2004	\$0	\$11,679	\$3,546	\$24,968	\$40,193
2005	\$0	\$10,571	\$14,262	\$30,843	\$55,676
2006	\$0	\$12,280	\$16,040	\$36,718	\$65,037
2007	\$0	\$13,009	\$10,805	\$44,061	\$67,875
2008	\$0	\$12,344	\$9,507	\$49,936	\$71,787
2009	\$0	\$6,425	\$12,255	\$55,811	\$74,491
2010	\$0	\$5,255	\$24,060	\$60,217	\$89,531
2011	\$0	\$9,116	\$26,567	\$61,685	\$97,367
2012	\$0	\$6,963	\$21,287	\$61,685	\$89,936
2013	\$0	\$6,963	\$15,622	\$61,685	\$84,271
2014	\$0	\$6,963	\$13,521	\$61,685	\$82,170
2015	\$0	\$6,520	\$24,060	\$61,685	\$92,266
2016	\$0	\$8,293	\$26,567	\$61,685	\$96,545
2017	\$0	\$11,775	\$21,287	\$61,685	\$94,747
2018	\$0	\$12,597	\$15,622	\$61,685	\$89,904
2019	\$0	\$11,775	\$13,521	\$61,685	\$86,981
2020	\$0	\$8,608	\$24,060	\$61,685	\$94,354
2021	\$0	\$0	\$26,567	\$61,685	\$88,252
2022	\$0	\$0	\$21,287	\$61,685	\$82,973
2023	\$0	\$0	\$15,622	\$61,685	\$77,307
2024	\$0	\$0	\$13,521	\$61,685	\$75,206
2025	\$0	\$0	\$24,060	\$61,685	\$85,745
2026	\$0	\$0	\$26,567	\$61,685	\$88,252
2027	\$0	\$0	\$21,287	\$61,685	\$82,973
2028	\$0	\$0	\$15,622	\$61,685	\$77,307
2029	\$0	\$0	\$13,521	\$61,685	\$75,206
2030	\$0	\$0	\$24,060	\$61,685	\$85,745
Net Present Value @7%	\$125,585	\$127,553	\$164,583	\$535,980	\$953,701
Annualized @7%	\$10,120	\$10,280	\$13,260	\$43,190	\$76,860

Source: Summary information from the Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule, July 2000.

9.1.2 Compliance Costs for the Private Sector

The private sector incurs costs under the proposed §316(b) New Facility Rule to comply with the requirements for in scope facilities. Of the 98 new in scope facilities subject to the proposed rule, 95 are estimated to be owned by a private entity. The privately-owned facilities include all 58 manufacturing facilities and 37 of the 40 electric generators.

Compliance costs for individual facilities were presented in *Chapter 6: Facility Compliance Costs*. Total annualized compliance costs for the 95 privately-owned facilities are estimated to be \$11.9 million, discounted at seven percent. The maximum aggregate costs for all 95 facilities in any one year is estimated to be \$36.2 million. This is well below the

UMRA \$100 million cost threshold for private sector costs in any one year.

9.1.3 Summary of the UMRA Analysis

EPA has determined that the proposed rule, if promulgated, would not contain a Federal mandate that will result in expenditures of \$100 million or more for state, local and tribal governments, in the aggregate, or for the private sector in any one year.

Table 9-6 summarizes the costs to comply with the rule for the 98 in scope facilities and the costs to implement the rule, borne by the responsible regulatory authorities.

Table 9-6: Summary of Total Costs

Sector	Total Annualized Cost			Maximum One-Year Cost		
	Facility Compliance Costs	Government Implementation Costs	Total	Facility Compliance Costs	Government Implementation Costs	Total
Government Sector	\$185,950	\$76,860	\$262,810	\$189,000	\$97,370	\$286,370
Private Sector	\$11,941,130	n/a	\$11,941,130	\$36,182,530	n/a	\$36,182,530
Total	\$12,127,080	\$76,860	\$12,203,940	\$36,371,530	\$97,370	\$36,468,900

Source: Summary information from Appendix B and the Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule, July 2000.

Table 9-6 shows that total annualized costs of the §316(b) New Facility Rule borne by governments is \$0.26 million per year. The maximum one-year costs that will be incurred by government entities is expected to be \$0.29 million (\$0.19 million in compliance costs for the three projected government-owned facilities and \$0.1 million in implementation costs). Total annualized costs and maximum one-year costs borne by the private sector are \$11.9 million and \$36.2 million, respectively. Both of these maximum costs are well below the \$100 million UMRA threshold. EPA therefore concludes that the proposed §316(b) New Facility Rule is not subject to the requirements of Sections 202 and 205 of UMRA.

9.2 SOCIAL COSTS OF THE PROPOSED RULE

The social costs of regulatory actions are the opportunity costs to society of employing scarce resources to reduce environmental damage. The largest component of economic costs to society generally is the estimated costs incurred by facilities for the labor, equipment, material, and other economic resources needed to comply with the proposed rule. Social costs also include the value of resources used by governments to implement the rule, including the costs of permitting, compliance monitoring, and enforcement activities. Finally, social costs include lost producers' and consumers' surplus that result when the quantity of goods and services produced decreases as a result of the rule.

The estimated total social cost of the proposed §316(b) New Facility Rule is the sum of three cost components: (1) direct compliance costs to facilities subject to the regulation; (2) costs to permitting authorities of implementing the rule; and (3) costs to the federal government of overseeing rule implementation.

- ▶ **Facility compliance costs** are discussed in *Chapter 6: Facility Compliance Costs* and include technology costs, operating and maintenance costs, and permitting and monitoring costs.⁷
- ▶ **State permitting costs** are presented in Section 9.1.1(b) of this chapter and include start-up costs, costs for initial permit application review and permit development, repermitting costs, and costs for annual activities.
- ▶ **Federal costs** include the same types of costs as are incurred by states but are associated with reviewing the states' permitting actions.

Given the small number of new facilities that would incur costs under the proposed §316(b) New Facility Rule, EPA does not expect a reduction in output in the affected industries due to the proposed rule (see discussion in *Chapter 7: Economic Impact Analysis*). Therefore, social costs are fully accounted for by the compliance costs incurred by the regulated facilities and the costs incurred by governments to implement the rule.

The total estimated social cost of the proposed §316(b) New Facility Rule is approximately \$12.2 million annually (using a seven percent discount rate and a 30 year discounting period). Direct facility compliance costs account for \$12.1 million, or 99.2 percent, of the total. Annual state and federal implementation costs account for approximately \$76,860 and \$3,250, respectively. The net present value of total social costs is \$151.5 million, with facility compliance costs accounting for \$150.5 million, state implementation costs for \$0.95 million, and federal costs for \$0.04 million.

⁷ Direct compliance costs to facilities are often calculated differently for the economic impact analysis and the social cost estimation. Economic impact analyses often take into account the tax deductibility of compliance costs to private businesses and differences between social and private opportunity costs of capital. The facility compliance costs estimated in Chapter 6, however, were not adjusted for tax effects. In addition, a single discount rate of seven percent is used in all parts of the analysis. Therefore, the costs presented in Chapter 6 represent both, the costs used in the impact analysis and the value to society of the resources used by facilities in compliance activities.

Table 9-7: Social Cost of the Proposed §316(b) New Facility Rule (\$1999)

	NPV	Annualized
Facility Compliance Costs	\$150,485,380	\$12,127,080
State Implementation Costs	\$953,700	\$76,860
Federal Costs	\$40,320	\$3,250
Total	\$151,479,400	\$12,207,190

Source: Summary information from Appendix B and the Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule, July 2000.

9.3 OTHER ECONOMIC ANALYSES

9.3.1 Executive Order 13132 (Federalism)

Executive Order 13132 on “Federalism” (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure “meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.”

Under Section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by state and local governments, or EPA consults with state and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts state law, unless the Agency consults with state and local officials early in the process of developing the proposed regulation.

EPA determined that the proposed §316(b) New Facility Rule does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various

levels of government, as specified in Executive Order 13132. The rule will not impose substantial costs on states and localities. In addition, the rule is required by §316(b) of the Clean Water Act. For these reasons, the requirements of Section 6 of the Executive Order do not apply to this rule.

9.3.2 The Paperwork Reduction Act of 1995

The Paperwork Reduction Act of 1995 (PRA) (superseding the PRA of 1980) is implemented by the Office of Management and Budget (OMB) and requires that agencies submit a supporting statement to OMB for any information collection that solicits the same data from more than nine parties. The PRA seeks to ensure that Federal agencies balance their need to collect information with the paperwork burden imposed on the public by the collection.

The definition of “information collection” includes activities required by regulations, such as permit development, monitoring, recordkeeping, and reporting. The term “burden” refers to the “time, effort, or financial resources” the public expends to provide information to or for a Federal agency, or otherwise fulfill statutory or regulatory requirements. PRA paperwork burden is measured in terms of annual time and financial resources the public devotes to meet one-time and recurring information requests (44 U.S.C. 3502(2); 5 C.F.R. 1320.3(b)).

Information collection activities may include:

- ▶ reviewing instructions;
- ▶ using technology to collect, process, and disclose information;
- ▶ adjusting existing practices to comply with requirements;

- ▶ searching data sources;
- ▶ completing and reviewing the response; and
- ▶ transmitting or disclosing information.

Agencies must provide information to OMB on the parties affected, the annual reporting burden, the annualized cost of responding to the information collection, and whether the request significantly impacts a substantial number of small entities. An agency may not conduct or sponsor, and a

person is not required to respond to, an information collection unless it displays a currently valid OMB control number.

EPA's estimate of the information collection requirements imposed by the proposed §316(b) New Facility Rule are documented in the Information Collection Request (ICR) which accompanies this regulation.

REFERENCES

U.S. Environmental Protection Agency. 2000. Information Collection Request for Cooling Water Intake Structures, New Facility Proposed Rule, July 2000.